

REMARKS/ARGUMENT

Claims 1, 4-9, and 33-35 are pending after entry of the present Amendment. Applicants herein amend claims 1, 5 and 7, and cancel claims 2-3. Claim amendments primarily address form and format of pending claims and do not introduce new subject matter.

Rejections under 35 USC §112

Claims 2, 5-9, and 33-35 were rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Office asserts that “The dependent claims 2, 3, 5-9, and 33-35 add additional features to the steps (d)(i) and (d)(ii), sometimes using open-ended language of ‘comprising,’ which is improper given the ‘consisting of’ language because it would return the claim to open-ended again.” Applicants herein cancel claims 2-3, amend claim 5, and traverse the rejection of claims 6-9 and 33-35.

As cited by the Office, “the transitional phrase ‘consisting of’ excludes any element, step, or ingredient not specified in the claim” MPEP 2111.03. Applicant has amended claim 1 to ensure that the elements closed by the transitional phrase “consisting of” recited in (d)(i)-(d)(iv) of claim 1, as amended herein, correctly recite and describe the claimed feature. Applicants respectfully submit, however, that the Office incorrectly rejects claims as “indefinite for further **defining or adding** features to the clause of claim 1 directed to the steps of forming the inter-metal dielectric structure” (page 3, emphasis supplied). As the language cited by the office states, “A claim which depends from a claim which ‘consists of’ the recited elements or steps cannot add an element or step.” The Office, however, in rejecting Applicants’ dependent claims 2, 3, 5-9, and 33-35, asserted an additional limitation, *i.e.*, defining, which MPEP §2111.03 does not impose.

Applicants’ dependent claim 5, as amended herein, recites that the inorganic dielectric layer is a TEOS silicon dioxide material. No additional element or step is claimed since the independent claim reciting the formation of the inter-metal dielectric structure consists of forming an inorganic dielectric layer. Dependent claim 5 defines a claimed element, it does not add an element or step. Applicants

respectfully submit that this is a proper dependent claim from an independent claim having a transitional “consisting of” clause.

Applicants’ dependent claim 6, likewise, does not add an element or step. The forming of a carbon doped oxide layer using a first etch chemistry is recited in claim 1, as amended herein. Further defining the carbon doped oxide layer as having a low dielectric constant of about and no greater than 3.0 is not adding an element or step. Applicants respectfully submit that this is a proper dependent claim from an independent claim having a transitional “consisting of” clause.

Applicants’ dependent claim 7, as amended herein, recites that the inorganic layer is one of TEOS oxide and fluorine doped oxide. Again, the formation of the inorganic dielectric layer is recited in claim 1. Further defining the inorganic dielectric layer in dependent claim 7 is not adding an element or step – the element, *i.e.*, the inorganic dielectric layer, and the step, *i.e.*, forming an inorganic dielectric layer to define a via dielectric layer, are claimed. Dependent claim 7 defines the claimed inorganic dielectric layer as one of a TEOS oxide layer and a fluorine doped oxide layer, but adds no additional element or step.

Applicants’ dependent claim 8, as amended herein, recites that the first etch chemistry, recited in independent claim 1, is optimized to etch through the carbon doped oxide layer, also claimed in claim 1, and that the second etch chemistry, recited in independent claim 1, is optimized to etch through one of the TEOS oxide layer and the fluorine doped oxide layer, claimed in claim 1, and further defined in claim 7. The elements and steps are all recited in claim 1, and neither claim 7, from which claim 8 directly depends, nor claim 8 add an element or step.

Applicants dependent claim 9 likewise recites that the second etch chemistry is selective to the barrier layer. The second etch chemistry is recited in claim 1, as is the barrier layer, and claim 9 adds no element or step.

Similarly, Applicants’ claims 33-35, all define particular aspects of elements and/or steps recited in claim 1, but do not add elements or steps.

Applicants respectfully submit that claims 4-9, and 33-35, as amended herein, are not indefinite under 35 USC §112, second paragraph, and comply with MPEP §2111.03 in that none of the rejected claims add an element or step to the “consisting of” claim elements recited in Applicants’ independent claim 1, elements (d)(i)-(d)(iv).

The limitation that a dependent claim cannot further define, as opposed to add, elements or steps to “consisting of” clauses is improperly applied. Applicants therefore request reconsideration, and submit that claims 4-9, and 33-35 are patentable under 35 USC §112, second paragraph.

Rejections under 35 USC §102

Claims 1-4 and 35 were rejected under 35 USC §102(e) as being anticipated by Aoi (U.S. Patent No. 6,197,696). The rejection is traversed, and Applicants request reconsideration.

In rejecting claims 2, 3, 5-9, and 33-35 under 35 USC §112 above, the Office asserted that “consisting of” in claim 1 will be taken to mean “comprising” because that is the context in which the dependent claims use the claim 1. Clearly, the Office extended the interpretation to the rejection of claims 1-4 and 35 under 35 USC §102. Applicants respectfully submit that the “consisting of” language is proper in accordance with MPEP §2111.03 as described above, and therefore the rejection of claims 1-4, and 35 under 35 USC §102 is improper and should be withdrawn.

The Aoi structure illustrated in Figures 15(a)-15(c), 16(a)-16(d) and 17(a)-17(c) and described at col. 18, line 60-col. 20, line 50, does not teach each and every element as set forth in the claims, either expressly or inherently, as required under 35 USC §102. See MPEP 2131. Specifically, Applicants properly presented “consisting of” clause, serves to exclude any element, step, or ingredient not specified in the clause. See MPEP 2111.03. The Aoi structure includes a first silicon dioxide film 353, also called a first insulating film, an organic film 354, also called a second insulating film, and a second silicon dioxide film 355, also called a third insulating film. Applicants’ independent claim 1 is not anticipated by this structure. Applicants’ dependent claims 4 and 35, each of which depend directly or indirectly from independent claim 1 are similarly not anticipated. Applicants therefore request that this rejection be withdrawn.

Rejections under 35 USC §103

Claims 33 and 34 were rejected under 35 U.S.C. §103(a) as being unpatentable over Aoi in view of Jang (U.S. Patent No. 6,110,648). This rejection is respectfully traversed, and Applicants request reconsideration.

For at least the reasons that Applicants' independent claim 1 is not anticipated by Aoi as submitted above, claims 33 and 34 are not rendered obvious by the combination of Aoi in view of Jang.

Applicants therefore respectfully submit that claims 33 and 34, are patentable under 35 USC §103(a) over Aoi, in view of Jang, and request that the rejections of these claims be withdrawn.

In view of the foregoing, Applicants respectfully request reconsideration of claims 1, 4-9, and 33-35. Applicants submit that all claims are in condition for allowance. Accordingly, a notice of allowance is respectfully requested. If Examiner has any questions concerning the present Amendment, the Examiner is kindly requested to contact the undersigned at (408) 749-6900, ext. 6905. If any additional fees are due in connection with filing this amendment, the Commissioner is also authorized to charge Deposit Account No. 50-0805 (Order No. LAM1P106A). A copy of the transmittal is transmitted herewith for this purpose.

Respectfully submitted,
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